

Recovery Plan Action Status

Plan Name: Recovery Plan for Deinandra conjugens (Otay Tarplant)

Plan Status: Final

Plan Date: 28-Dec-04

Lead Agency: USFWS

Lead Office: Carlsbad Fish And Wildlife Office

(760)

431-9440)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Otay tarplant (Deinandra (=Hemizonia) conjugens)	1	1.1	Protect Deinandra conjugens habitat within areas identified for conservation under the respective County of San Diego, the City of San Diego and City of Chula Vista Subarea Plans	Ongoing Current	FY 1995 - FY 1999		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement, Acquisition: Exchange, Acquisition: Fee Title, Acquisition: General, Acquisition: Lease, Acquisition: Management Agreement, Management: Habitat Maintenance and Manipulation	Internal Administrative, Internal Technical Assistance	Costs will reflect MSCP planning for multiple species.
Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	1.2	Protect habitat supporting known populations of Deinandra conjugens outside of MSCP participating jurisdictional control	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, California Department of Fish and Game	Acquisition: Easement, Acquisition: Exchange, Acquisition: Fee Title, Acquisition: Lease, Acquisition: Management Agreement	Internal Administrative, Internal Technical Assistance	Includes working with non-MSCP entities to develop multi-species HCPs that address D. conjugens. Surveys as projects are proposed.
Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	2	Evaluate the status of all known populations of Deinandra conjugens	Ongoing Not Current	FY 1995 - FY 1999		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Other Information	Contract, Graduate Student, Internal Technical Assistance, Species Expert	

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Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	3	Conduct surveys to search for new populations of Deinandra conjugens and implement action to protect populations outside of established (or propose) reserves when necessary to maintain genetic diversity and/or connectivity between larger reserves	Not Started			City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	
Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	4.1	Develop and implement appropriate techniques to control invasive weeds within suitable Deinandra conjugens habitat	Ongoing Current	FY 1995 - FY 1999		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Research: Competition	Contract, Graduate Student, Species Expert	Transnet Grant - will develop detailed habitat assessments and conceptual models to design cost-effective ways of controlling exotic grasses to benefit Otay tarplant as well as implement 30 acres of enhancement. The City of Chula Vista has also received a TransNet Grant to control exotics and enhance DECO in their central reserve.

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Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	4.2	Develop and implement appropriate management plans for areas conserved for Deinandra conjugens.	Ongoing Current	FY 1995 - FY 1999		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Management: Propagation, Management: Reintroduction, Research: Competition, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Population Surveys, Research: Propagation, Research: Reintroduction	Contract, Graduate Student, Internal Technical Assistance, Species Expert	For outside MSCP-managed areas; MSCP will develop & implement own plans. \$20K every other year after plan development
Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	4.3	Develop and implement a Deinandra conjugens monitoring plan for conserved areas.	Planned	FY 1995 - FY 1999		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Management: Habitat Maintenance and Manipulation, Management: Predator and Competitor Control, Research: Competition, Research: Habitat Requirements, Research: Habitat Status, Research: Management Techniques, Research: Propagation	Contract, Graduate Student, Species Expert	SANDAG funding to develop and implement regional monitoring protocols.
Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	5.1	Conduct research to determine the population dynamics of conserved populations of Deinandra conjugens.	Not Started			City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Competition, Research: Genetics, Research: Habitat Requirements, Research: Habitat Status, Research: Population Surveys	Contract, Species Expert	Every other year after 2008

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Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	5.2	Conduct research to determine ecological requirements of the species	Partially Complete	FY 2000 - FY 2004		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Habitat Requirements	Contract, Graduate Student, Species Expert	Timing and duration may vary with yearly weather
Otay tarplant (Deinandra (=Hemizonia) conjugens)	1	5.3.1	Conduct a baseline census of current genetic structure of populations and genetic diversity of the species	Not Started			California Department of Parks and Recreation, U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Genetics	Graduate Student, Species Expert	\$20K to reevaluate every 5 years
Otay tarplant (Deinandra (=Hemizonia) conjugens)	1	5.3.2	Determine the level of variability at the S locus within and among populations of Deinandra conjugens, and identify isolated populations that may need genetic augmentation.	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Genetics	Graduate Student, Species Expert	After FY 08, \$20K to reevaluate every 5 years
Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	5.3.3	Identify appropriate management techniques to provide genetic exchange and/or genetic augmentation among populations	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Research: Genetics, Research: Habitat Requirements, Research: Management Techniques	Contract, Graduate Student, Species Expert	\$10k every 5 years after 2009
Otay tarplant (Deinandra (=Hemizonia) conjugens)	1	5.4	Based on research and monitoring of population dynamics in Deinandra conjugens, and the extent of genetic variability within the species, determine the number of populations, the spatial distribution, and the amount of suitable and occupied habitat necessary to recover the species	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	Costs and specific timing dependent on research results

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Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	5.5.1	Conduct research to identify the primary and secondary pollinators of Deinandra conjugens.	Partially Complete	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	Timing and duration may vary with yearly weather
Otay tarplant (Deinandra (=Hemizonia) conjugens)	2	5.5.2	Identify the habitat requirements of Deinandra conjugens pollinators and assess population status in conserved areas	Discontinued	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	Start FY 07; every other year after 2009
Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	5.5.3	Determine what distances pollinators can travel and how fragmentation affects pollinators' ability to contribute to long distance pollen transfer between populations of Deinandra conjugens.	Not Started			City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	2 additional years to complete research
Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	5.6	Continue to develop techniques to germinate and propagate Deinandra conjugens	Discontinued	FY 2000 - FY 2004		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	
Otay tarplant (Deinandra (=Hemizonia) conjugens)	1	5.7	Develop seed storage techniques for Deinandra conjugens and collect seeds from all available sources	Discontinued	FY 2000 - FY 2004		City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	repeat collections periodically to ensure fresh supply and diversity

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Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	6.1	Develop and implement outreach plans to conserve Deinandra conjugens	Not Started			City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	\$3K annually after 2009; augments MSCP outreach efforts
Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	6.2	Continue to develop informational outreach materials regarding the conservation of Deinandra conjugens and its associated habitat, and the greater ecosystem needs (including the interplay of other species) within preserved lands	Not Started			City of Chula Vista, California, City of San Diego, California, San Diego County, California, U.S. Fish and Wildlife Service, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	
Otay tarplant (Deinandra (=Hemizonia) conjugens)	3	7	Enter into dialogue with Mexican governmental and nongovernmental organizations to secure protection for Deinandra conjugens in Mexico	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game, Non-governmental organizations	Work type not yet selected	Labor type not yet selected	